

Version With Markings to Show Changes Made**Summary of the Invention**

To accomplish the above objects, the invention [defined in claim 1] provides a connector system comprising a pair of first and second connectors, each of which includes a fitting portion to be fitted with a counterpart fitting portion in a mutually inserting manner to establish an electrical connection between the first and second connectors, and a polarizing key mechanism permitting only a specific combination of the first and second connectors to be connected with each other, characterized in that the polarizing key mechanism comprises a first guide member provided around the fitting portion of the first connector, the first guide member including a plurality of engaging sections; and a second guide member provided around the fitting portion of the second connector, the second guide member including a plurality of engaging sections which can be compensatingly engaged with the plurality of engaging sections of the first guide member; wherein the first and second guide members permit the first and second connectors to be connected with each other only when the engaging sections of the first guide member are compensatingly engaged with the engaging sections of the second guide member, and guide the first and second connectors under a compensating engagement between the engaging sections in such a direction as to cause a parallel translation of the fitting portions of the first and second connectors while maintaining a face-to-face arrangement of the fitting portions.

The invention [defined in claim 2] further provides a connector system as set forth [in claim 1] above, wherein the engaging sections of each of the first and second guide members are located at both sides of a horizontal sectional center plane dividing the fitting portion of each of the first and second connectors into upper and lower parts and at both sides of a vertical sectional center plane dividing the fitting portion into right and left parts.

The invention [defined in claim 3] further provides a connector system as set forth [in claim 1 or 2] above, wherein the fitting portion of each of the first and second connectors has a polarity, and wherein the engaging sections of each of the first and second guide members are located at positions symmetric with respect to a center point of the fitting portion of each of the first and second connectors.

The invention [defined in claim 4] still further provides a connector system as set forth above [in any one of claims 1 to 3], wherein the polarizing key mechanism further comprises a first abutting section provided in the first connector in association with the first guide member for abutment with another connector which cannot be compensatingly engaged

with the first guide member to prevent the first connector from being connected with the other connector, and a second abutting section provided in the second connector in association with the second guide member for abutment with further connector which cannot be compensatingly engaged with the second guide member to prevent the second connector from being connected with the further connector.

The invention [defined in claim 5] still further provides a connector system as set forth above [in any one of claims 1 to 4], wherein the first guide member includes a first wall substantially surrounding the fitting portion of the first connector, the engaging sections of the first guide member being grooves formed on the first wall and extending along a direction of insertion of the first connector to the second connector, and wherein the second guide member includes a second wall substantially surrounding the fitting portion of the second connector to define a gap for receiving the first wall between the second wall and the fitting portion, the engaging sections of the second guide member being ribs formed on the second wall and extending along a direction of insertion of the second connector to the first connector, the ribs being adapted to be compensatingly engaged with the grooves.

The invention [defined in claim 6] still further provides a connector system as set forth above [in any one of claims 1 to 5], wherein the first connector includes an insulation body provided with the fitting portion and supporting a plurality of contacts, and a shell for covering the insulation body, and wherein the first guide member is structured as a frame member attached to the shell.

The invention [defined in claim 7] still further provides a connector system as set forth above [in any one of claims 1 to 5], wherein the first connector includes an insulation body provided with the fitting portion and supporting a plurality of contacts, and a shell for covering the insulation body, and wherein the first guide member is structured as a part of the shell located around the fitting portion.

The invention [defined in claim 8] still further provides a connector system as set forth above [in any one of claims 1 to 7], wherein the second connector includes an insulation body provided with the fitting portion and supporting a plurality of contacts, the insulating body being secured to a panel with an opening into which the fitting portion is inserted, and wherein the second guide member is structured as a frame member attached to the panel.

The invention [defined in claim 9] still further provides a connector system as set forth above [in any one of claims 1 to 7], wherein the second connector includes an insulation body provided with the fitting portion and supporting a plurality of contacts, the insulating

body being secured to a panel with an opening into which the fitting portion is inserted, and wherein the second guide member is structured as a frame part integrally formed with the panel.